

PDF

# The Backbone Campaign

Petition

2 OF 2

Dear Vashon Island Community,

I write you today as a 25 year resident of this island and as the director of the Backbone Campaign, a public interest organization that many of you have supported for the past ten years. I want to express my grave concern and decision to strongly oppose the sale of the K2 facility by Jarden Corporation to Bakkhos Holding, LLC. **Inadequate environmental review of possible/likely industrial contamination at this facility at this time could leave Vashon residents paying a much higher future cost of clean-up, or worse yet, the possible pollution of Vashon's groundwater or sole-source aquifer.**

In 2007, the K2 Sports and a large collection of brands under its umbrella were purchased by Jarden Corporation for \$1.2 billion. Jarden Corporation, based in Rye, NY is a \$7 billion-a-year conglomerate that owns over one hundred other consumer brands. Among the more well known brands owned by Jarden are Mr. Coffee, Oster, Coleman, Yankee Candles, Sunbeam, Margaritaville, Marmot, Kerr, Johnson and Ball Jars. With the purchase of K2 Sports, Jarden acquired a dynamic set of brands, some of which were developed on Vashon Island over decades of creative work. Along with that valuable and profitable asset, Jarden also acquired a relatively minor liability, the Vashon manufacturing plant.

Today, Jarden is about to sell this facility to a cash buyer, Bakkhos Holding, LLC. Bakkhos is a nine week old LLC (Limited Liability Corporation) with no ties to our community. K2 Sports/Jarden Corporation is requiring that Bakkhos Holding, LLC indemnify them for all prior contamination of the site. Though in and of itself an indemnification is not outside the norm, Bakkhos is agreeing to give that indemnification to Jarden without any independent scientific review of Jarden's environmental assessment of the property. and doing so despite early warnings from one of their original team who objected to the indemnification and the nature of the seller-commissioned assessment.

I and others more qualified than I have reviewed the Phase 1 and Phase 2 reports. So far, the consensus is that the Phase 2 is basically worthless. The report itself says, "This report is not a comprehensive site characterization and should not be construed as such. The interpretations and conclusions are the result of one day of field work." I share the opinion that an 18 acre site with over 60 years of industrial impacts cannot be characterized with one day of testing. Besides that, there are eighteen total "RECs" (recognized environmental conditions) identified in their report. Nine of those eighteen were not tested at all. Other of the tests were inexplicably far from the identified RECs and the very methods and protocols suspect.

Were Bakkhos not a cash buyer, but receiving financing through a lending institution, that lender would likely require Jarden to obtain a "No Further Action" (NFA) letter from the Washington State Department of Ecology (DOE) so as to be assured that it was acquiring or lending against an asset rather than a liability. To obtain an NFA, Jarden/K2 Sports would have to submit the Phase 1 and Phase 2 environmental assessments it commissioned to the DOE to determine that there is no need for additional testing, and do whatever testing if deemed necessary to address data gaps. Only once those data gaps are addressed and potential clean-up done would DOE have the information that would allow them to issue an NFA letter.

I met with a representative Bakkhos Holding and Edi-Pure twice, requesting that they work with our community to require this NFA letter. He refused to even consider it. He refused to investigate our warnings about the Phase 1 and Phase 2 despite early warnings from one of their original team who objected to the indemnification and the nature of the seller-commissioned assessment. Bakkhos' "good enough for us" attitude robs this community of an opportunity to insist that Jarden take the bad with the good by conducting a thorough characterization of the site with adequate testing, and the environmental clean-up necessary to protect our health, ground water and drinking water for future generations.

Like many of you, I have been frustrated to see nothing come to fruition at the K2 plant for so many years. The general impression has been that our community just couldn't "get it together" to create a project that would "pencil out." But the current situation reveals a darker side to this story. Lack of imagination, good ideas and business sense were likely not the only impediments to progress. I now believe that liability concerns for the facility and grounds have been a cloud over both finding the right buyer and closing a deal.

IF Jarden's exit strategy has been to seek indemnification without subjecting their environmental assessment to a thorough review in order to avoid additional testing and potential cleanup, THEN a cash-buyer-in-a-rush such as Bakkhos Holding, LLC is the PERFECT match for Jarden, but a TERRIBLE match for Vashon.

Therefore, I believe that we as a community must:

1. Call upon Jarden/K2 Sports to voluntarily follow the Department of Ecology's NFA letter process before shedding liability for the former K2 factory, and thus concluding a chapter in our Island story with the same positive spirit we enjoyed when K2 was such a vibrant part of our community.
2. Make our support of Bakkhos Holding, LLC's entrance into our community dependent upon them collaborating with us to protect Vashon's future health and safety by making the NFA letter a precondition for the transfer of liability. And
3. Engage our King county elected officials along with State and County regulatory agencies to use their full power to guarantee that the K2 site not be burdened with unanswered questions nor our environmental health traded for corporate irresponsibility or the haste of outsiders.

**Please join me in setting a higher standard for these two corporations and compelling our elected officials to act on our behalf by signing *our online petition*. The *Petition* and "marked up" excerpt of the Phase 2 is available at <http://BackboneCampaign.org>**

Bill Moyer  
Executive Director  
Backbone Campaign

## **The Petition:**

1. Call upon Jarden/K2 Sports to voluntarily follow the Department of Ecology's NFA letter process before shedding liability for the former K2 factory, and thus concluding a chapter in our Island story with the same positive spirit we enjoyed when K2 was such a vibrant part of our community.
2. Make our support of Bakkhos Holding, LLC's entrance into our community dependent upon them collaborating with us to protect Vashon's future health and safety by making the NFA letter a precondition for the transfer of liability. And
3. Engage our King county elected officials along with State and County regulatory agencies to use their full power to guarantee that the K2 site not be burdened with unanswered questions nor our environmental health traded for corporate irresponsibility or the haste of outsiders.

Please join me in compelling our elected officials and these two corporations to live up to a higher standard for environmental stewardship and accountability on our behalf and the health of future generations to inhabit our beautiful island home.

**FARALLON CONSULTING, L.L.C.**

975 5<sup>th</sup> Avenue Northwest  
Issaquah, Washington 98027

Phone  
(425) 295-0800  
Fax  
(425) 295-0850

**T E C H N I C A L   M E M O R A N D U M**

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**TO:** Bill Moyer, Executive Director—Backbone Campaign

**FROM:** Clifford T. Schmitt, Principal

**DATE:** February 13, 2014

**RE: ENVIRONMENTAL EVALUATION  
K2 CORPORATION FACILITY  
VASHON ISLAND, WASHINGTON  
FARALLON PN: 1271-001**

Farallon Consulting, L.L.C. (Farallon) has prepared this Technical Memorandum to present the results of an evaluation of environmental conditions at the K2 Corporation manufacturing facility at 19215 Vashon Highway Southwest, Vashon Island, Washington (K2 facility). The purpose of this evaluation was to review known existing conditions at the K2 facility and to identify potential data gaps that would need to be addressed to obtain regulatory closure from Washington State Department of Ecology (Ecology) under the Washington State Model Toxics Control Act Cleanup Regulation (MTCA), Chapter 173-340 of the Washington Administrative Code (WAC 173-340).

**BACKGROUND**

Farallon reviewed the documents provided by others for the K2 facility. These documents included:

- Draft Phase I Environmental Site Assessment (Phase I ESA) report dated May 14, 2007 and revised December 13, 2007, prepared by Berg Environmental Services;
- Phase II Environmental Site Assessment (Phase II ESA) report dated July 11, 2008, prepared by White Shield, Inc.; and
- Underground Heating Oil Storage Tank Decommissioning Report dated February 11, 2009, prepared by White Shield, Inc. (UST Report).

Farallon has extensive experience pursuing regulatory closure under MTCA for industrial and manufacturing facilities and obtaining No Further Action (NFA) determinations from Ecology (i.e., NFA Opinion Letters). To issue an NFA Opinion Letter for the K2 facility that states conditions are protective of human health and the environment and that no further action is necessary to comply with MTCA, it is Farallon's expectation that Ecology will require detailed historical information regarding the use, storage, and disposal of hazardous substances at the property. Some of this information was provided in the Phase I ESA report that identified numerous recognized environmental conditions. At a minimum, Ecology would require that each recognized environmental condition be sufficiently investigated to confirm whether or not there has been a release of hazardous substances exceeding applicable cleanup levels. Where a release has occurred, such as happened at one of the underground storage tanks (USTs) at the K2 facility, Ecology will require that the nature and extent of the release be characterized for each medium of concern (e.g. soil, groundwater, surface water, and indoor air).

## **EXISTING CONDITIONS AND DATA GAPS**

An overview of existing conditions and identification of data gaps is presented in this section of the Technical Memorandum. This includes areas where work was conducted previously such as at the three USTs, locations identified as recognized environmental conditions, and other areas or media of concern identified by Farallon.

According to the UST Report, some of the contaminated soil was excavated at the UST during an interim action (WAC 173-340-430). It may be possible to obtain an NFA determination from

Ecology for the residual contamination without further excavation; however, the following steps would be required:

1. Characterize the extent of residual contamination.
2. Confirm that shallow groundwater, if present, is not contaminated.
3. If groundwater is not contaminated, prepare a feasibility study and disproportionate cost analysis (WAC 173-340-360[3][e]) to support leaving residual contaminated soil in place. This will require an environmental covenant (deed restriction); and if the building in this area is demolished in the future, the soil will need to be cleaned up.
4. If groundwater is present and confirmed to be contaminated, soil and groundwater will likely need to be cleaned up to pursue an NFA determination from Ecology.

Jarden and K2 Corporation would need to provide documentation that the two other USTs at the K2 facility mentioned in the Phase I ESA report were properly closed in-place and there were no releases to the subsurface at these locations.

Recognized environmental conditions were identified in Section 8 of the Phase I ESA report and on pages 1 through 3 of the Phase II ESA report. The locations of the recognized environmental conditions are shown on Figure 2 of the Phase II ESA report, and Table 1 describes the purpose of each boring drilled for the Phase II ESA. Below are preliminary comments regarding the work performed by White Shield, Inc. to address the recognized environmental conditions and to characterize "existing conditions" and areas where Farallon expects Ecology would require collection of additional data sufficient to provide an Opinion Letter for the K2 facility:

- A. **An Open-Ended Sump in the Machine Shop (Location 7):** No sampling was conducted in the vicinity of the sump during the Phase II ESA to assess existing conditions. Ecology would require identification of the sump discharge point and soil sampling at the sump and discharge point to issue an opinion as to whether further action is/is not necessary at these locations.

- B. The Hazardous Waste Shed (Location 3):** Boring B-7 drilled during the Phase II ESA was located outside and south of the Hazardous Waste Shed, and a sample from 4 feet below ground surface (bgs) was analyzed. It is unlikely that analysis of only one shallow soil sample located some distance outside this shed is sufficient for Ecology to issue an opinion as to whether further action is/is not necessary at this location; therefore, additional sampling will be necessary inside and/or adjacent to the Hazardous Waste Shed.
- C. Soil Underneath Retention Pond (Location 10):** A purpose of boring B-10 drilled during the Phase II ESA was to assess if there was a release from the retention pond. However, boring B-10 is located at least 50 feet to the northeast in an area up-gradient or cross-gradient of the stormwater retention pond. Nonetheless, a low concentration of the chlorinated solvent trichloroethene (TCE) was detected in the soil sample collected at boring B-10. TCE is a potential carcinogen with a very low cleanup level for soil and groundwater. Since this boring is distant from any potential source area, Ecology would require further investigation to identify the source(s) of TCE impacting soil at boring B-10. The investigation would include areas within the main building where TCE was used, stored, or disposed of such as at the former vapor degreasers (Location 12). In addition, Ecology would require soil sampling at multiple locations within the stormwater retention pond footprint to issue an opinion as to whether further action is/is not necessary at this feature.
- D. Former Drain Fields (Locations 7 and 11):** No sampling was conducted during the Phase II ESA in the vicinity of the former drain fields to assess existing conditions. Ecology would require soil sampling at these locations to issue an opinion as to whether further action is/is not necessary at the former drain fields.
- E. The Former Florist Shop and Greenhouses (near Location 1):** No sampling was conducted during the Phase II ESA in the vicinity of the former florist shop and greenhouses to assess existing conditions. In addition, possible spilling of chemicals outside the north side of the main building was noted in the Phase I ESA report (page 6).



Ecology would require soil sampling to issue an opinion as to whether further action is/is not necessary at these locations.

- F. **Former Chemical Loading/Unloading Area on the North Side of the Main Building (Location 1):** No sampling was conducted during the Phase II ESA in the vicinity of the former chemical loading/unloading area to assess existing conditions. Ecology would require soil sampling at several locations to issue an opinion as to whether further action is/is not necessary at this area.
- G. **The Still Area (near Location 2):** Staining was observed on the floor at the still area during the Phase I ESA site reconnaissance. Low concentrations of TCE were detected in soil samples collected at borings B-4 and B-6 during the Phase II ESA; however, these borings are approximately 40 feet distant from the still area. Ecology would require further investigation at the location of the still area to issue an opinion as to whether further action is/is not necessary at this area.
- H. **Soil and Groundwater Near the Boiler Room (Location 6) and Centrifuge Room (Location 3):** No soil and groundwater sampling was conducted during the Phase II ESA at the boiler room or centrifuge room. Evidence of groundwater seepage was noted in both areas and the floor was stained at the centrifuge room during the Phase I ESA site reconnaissance. Ecology would require further investigation at the locations of these features to issue an opinion as to whether further action is/is not necessary at these areas.
- I. **The Former Resin Tank Farm Area (Location 4):** A soil sample was collected during the Phase II ESA at 6 feet bgs from boring B-8 located outside and north (up-gradient) of the resin tank farm area. Ecology would require soil sampling at several locations within the former resin tank farm to issue an opinion as to whether further action is/is not necessary at this area.
- J. **Unpaved Areas and Soil on the South End of the Property (Location 5):** Boring B-9 was located to assess the potential for contamination from the grinding process area. This boring is at least 30 feet outside the main building and the only soil sample analyzed was collected from only 2 feet bgs. The location of the grinding process area relative to

boring B-9 is not shown on the Site map. Ecology would require soil sampling at one or more locations within the grinding process area inside the building to issue an opinion as to whether further action is/is not necessary.

- K. Area Near the Northwest Corner of the Machine Shop, Former Gel Coat Pit, and Paint Booth (Location 7):** No sampling was conducted during the Phase II ESA at Location 7 to assess existing conditions. Ecology would require soil sampling at this location to issue an opinion as to whether further action is/is not necessary.
- L. Former Equipment and Materials Storage Areas Near the West Side of the Property (Location 8):** No sampling was conducted during the Phase II ESA at Location 8 to assess existing conditions, with the exception of boring B-5. Ecology would require more extensive soil sampling at this location and within the empty barrel storage building (boring B-5 was outside the building) to issue an opinion as to whether further action is/is not necessary.
- M. Former Vapor Degreasing Areas (Location 12):** No sampling was conducted during the Phase II ESA at the former vapor degreasing areas to assess existing conditions. Ecology would require soil sampling and potentially soil gas sampling at multiple borings in the vicinity of each former vapor degreaser location to issue an opinion as to whether further action is/is not necessary.
- N. Rooms on the West Side of Carpenter Shop Building and Nearby Pavement:** Floor staining was observed during the Phase I ESA site reconnaissance in the rooms on the west side of the carpenter shop building and on pavement nearby; however, no sampling was conducted during the Phase II ESA to assess existing conditions. Ecology would require soil sampling at these locations to issue an opinion as to whether further action is/is not necessary.
- O. Soil Cleanup Area South Side of Carpenter Shop Building:** The Phase I ESA report stated that an excavation to clean up a release beneath a truck was conducted on the south side of the Carpenter Shop Building. Insufficient information is available to assess

existing conditions in this area. Ecology would require soil sampling at this location to issue an opinion as to whether further action is/is not necessary.

**P. Discharges to the Storm Drain System Including Ditch:** The Phase I ESA report text stated that environmental audit reports noted wastewater from “drip barrel” waste coming from the trash compactor and entering the storm drain. All environmental audit reports should be provided to Farallon for review. In addition, the Phase I ESA report noted that spills were transported through the retention pond to the ditch along the east side of the property. Insufficient information is available to assess existing conditions associated with the storm drain system and ditch. Ecology would require soil sampling at these features location to issue an opinion as to whether further action is/is not necessary.

**Q. Groundwater:** Shallow groundwater is likely present beneath the property. Seepage has been observed in the boiler room, diesel fire pump room, other basement rooms along the south side of the main building and the centrifuge area. Due to the long history of hazardous substance use at the property and the extensive use of groundwater on Vashon Island, Ecology would require installation of a monitoring well network at and down-gradient of potential source areas at the K2 facility to assess existing conditions and to provide sufficient data to issue an opinion as to further action is/is not necessary. The observation by White Shield, Inc. that groundwater was not present at the shallow depths explored during the Phase II ESA will not be relied upon by Ecology as conclusive evidence that groundwater is not present.

In summary, the “existing conditions” at most areas identified as recognized environmental conditions or of concern to Farallon have not been characterized, and groundwater conditions have not been investigated. For Ecology to provide an Opinion Letter for this facility that no further action is necessary to meet the requirements of MTCA, sufficient data must be collected to demonstrate that existing conditions are protective of human health and the environment.

## **CLOSING**

Farallon appreciates the opportunity to provide environmental consulting services for this project. Please contact Clifford Schmitt at (425) 295-0800 if you have questions or comments regarding the information presented above.

CTS:bw

## 1.0 INTRODUCTION

### 1.1 Involved Parties

On June 12, 2008 White Shield, Inc. (WSI) completed a Phase II Environmental Site Assessment (ESA) for the K2 Corporation property located at 19215 Vashon Highway SW, Vashon, Washington (Figure 1). The work was conducted for K2 Corporation in Seattle, Washington and was performed in general accordance with the American Society for Testing and Materials (ASTM) Standard E 1903-97.

### 1.2 Background

In December 2007, Berg Environmental Services (Berg) performed a Phase I ESA at the subject site. The purpose of the Phase I ESA was to evaluate the likelihood for the presence of recognized environmental conditions (RECs) at the site. The term "recognized environmental conditions" means the presence or likely presence of regulated hazardous or dangerous wastes and/or substances, including petroleum products, under conditions that indicate an existing release, a past release, or a material threat of a release into the structures of the property or into the ground, groundwater, or surface water of the property. Hazardous or dangerous wastes and/or substances and release reporting requirements are defined by the Washington State Model Toxics Control Act (MTCA) (Chapter 173-340 WAC) regulations and the Washington Dangerous Waste regulations (Chapter 173-303 WAC).

WSI reviewed the Phase I ESAs conducted by Berg for the subject property. WSI also conducted its own assessment. Based on our review and assessment, numerous RECs and suspected RECs were identified. These RECs are identified on the site plan (Figure 2) and are discussed below:

- Not Tested →
- **An Open-ended Sump in the Machine Shop (Location No. 7, Site Plan)**  
The sump in the machine shop contained some water in the bottom, and apparently drains to the ground. An oily odor was observed in the soil at the bottom of the sump. Metalworking fluid or other contaminants could potentially have been released to the soil through this sump.
  - **The Hazardous Waste Shed (Location No. 3, Site Plan)**  
Some potential existed that trace amounts of hazardous materials or petroleum products were released to the soil and groundwater because of groundwater infiltration, but no additional specific releases have been identified.
  - Not tested →
  - **Soil Underneath Retention Pond (Location No. 10, Site Plan)**  
Oil and metals from parking lot runoff could have been released to the soil and groundwater under the pond before the current Gunitex surface was installed. Releases of additional petroleum or hazardous materials residues from manufacturing processes are not expected to be significant.
  - Not tested →
  - **Former Drain Fields (Locations No. 7 and 11, Site Plan)**  
One former drain field was identified as located approximately 50 feet to the west of the current machine shop (location 7 on the Site Plan), which served the machine shop building. Reportedly, another former drain field is located underneath the current employee fitness area (location 11 in the Site Plan). Contaminants of concern

would include those most likely be persistent in the soil, such as hydraulic oil and chlorinated hydrocarbons.

- **Two Heating Oil USTs (near Locations 1 and 13, Site Plan)**  
Two 300-gallon heating oil underground storage tanks (USTs) are still in place. One tank is located near the north side of the main building and the other is located underneath the machine shop. Reportedly, both tanks were empty as of October 30, 2007.

Not Tested

- **The Former Florist Shop and Greenhouses (near Location No. 1, Site Plan)**  
A florist shop occupied an area to the west of the current machine shop, along the north side of the subject property main parcel, approximately during the years 1946-1972. Practices are unknown regarding herbicide, pesticide, and petroleum product use in the shop and greenhouses. A former drain field is also known to be associated with the former florist shop. Residual discharge of these substances to the soil is possible and sometimes associated with floriculture facilities. Some pesticides/herbicides used during that time period are persistent in the soil.

Not Tested

- **Former Chemical Loading/Unloading Area on the North Side of the Main Building (Location No. 1, Site Plan)**  
Chemicals were transferred in and out of the building in this area before the current loading dock was built. Part of the area was unpaved before 1972-1974.
- **The Still Area (near Location 2, Site Plan)**  
This area was used to recycle spent solvents. Staining appeared to be present on the floor adjacent to the still.
- **Soil and Groundwater Near The Boiler Room (Location No. 6, Site Plan) and Centrifuge Room (Location No. 3, Site Plan)**  
Groundwater occasionally seeps into the basement, which has had some minor oil residues on the floor from time to time. The lawn area is presumed to be downgradient (for groundwater) from the basement.

Appears to have been tested up gradient and possibly away from actual tank farm

- **The Former Resin Tank Farm Area (Location No. 4, Site Plan)**  
One spill of 30-50 gallons of resin near the former resin tank farm was reported in 1996. Although no other specific spills in this area were identified in the interviews, other spills may have occurred in this area during tank refilling.

Not tested

- **Unpaved Areas and Soil on the South End of the Property (Location No. 5, Site Plan)**  
The lawn area along the south property border has been largely unused. Spills of grinding fluid are known to have occurred in the area near the main building basement rooms. Oil residue from groundwater seepage appears possible but unlikely. Some petroleum lubricants may have been associated with grinding fluid for a short period of time before 1974.

Not tested

- **Area near the Northwest Corner of the Machine Shop (Location No. 7, Site Plan)**  
The machine shop is the site of the original K2 production area. Contamination in this area is possible but appears unlikely because the personnel interviewed did not recall a significant potential for release of chlorinated solvents or petroleum products in this area.

- **Former Equipment and Materials Storage Areas near the West Side of the Property (Location No. 8, Site Plan)**  
Paved areas along the west side of the main building have been locations of equipment and materials storage, and hazardous waste management activities during the years, including storage of empty hazardous waste barrels.
- **Former Vapor Degreasing Areas (Location No. 12, Site Plan)**  
Chlorinated solvents are typically used in vapor degreasers. While the solvents are generally contained to the degreasing tank, there is the potential for releases when the spent solvent is drained for disposal or when fresh solvent is added.
- **Floor Staining**  
Staining was observed on the floor in the still area, the centrifuge area, and rooms on the west side of the carpenter shop building.
- **Former Gel Coat Pit (Machine Shop, Location 7, Site Plan)**  
Former K2 employee Doug Griffith described a former pit as located in the southwest corner of the machine shop. This pit was used to collect wastewater associated with a gel coat resin process, similar to what is commonly used in fiberglass boat manufacturing. Heavy metals could have been in the pigments associated with this process.
- **Former Hazardous Waste Storage Shed (near Location No. 3, Site Plan)**  
Mr. Griffith recalled a 12-foot by 12-foot hazardous waste storage shed south of the Carpenter Shop, used before the current hazardous waste shed was built in approximately 1984. He said that this shed was used from approximately 1972 to the time the bigger shed was built in about 1984. Based on those interviewed, quantities of hazardous substances and/or petroleum products released in the former shed appear to have been limited and well contained.
- **Paint Booth (Machine Shop, Location 7, Site Plan)**  
A former paint booth was located in the machine shop. A paint booth is a typical source of concern in Phase I ESAs because paint contained heavy metals in the past, and overspray or accidental spillage typically can cause contaminants to be released to the ground.

Not Tested!

In addition, the presence of a fueling distribution facility (which reportedly replaced USTs in 1976) located southeast of the subject property across the Vashon Highway should also be considered a REC.

WSI concluded that some of the RECs could pose a significant risk to the soil and groundwater of the subject site. Based on the assessment conducted, WSI recommended that a Phase II ESA be undertaken.

### **1.3 Phase II Proposal and Objectives**

WSI proposed to K2 Corporation in a letter proposal dated January 11, 2008 that a Phase II ESA be conducted on the property. This proposal was based on the findings and recommendations of the Phase I ESA and WSI's review and assessment. The general

purpose of the Phase II ESA was to provide more information regarding the nature and extent of the identified RECs. The specifics of the proposal included the following:

- Install 11 "Geoprobe" borings at selected locations around the facility to investigate the potential for soil and/or groundwater contamination. The locations of the borings are shown on Figure 2. Table 1 identifies the borings, the purpose of each boring, the media of concern, and the potential contaminants of concern.
- Sample soil and/or groundwater for location-specific contaminants of concern.
- Prepare a summary report documenting the analytical results and findings. The report would also contain recommendations for further work if needed.

## 2.0 SITE DESCRIPTION AND PHYSICAL SETTING

### 2.1 Site Description and Physical Setting

The subject site is a rectangular area approximately 11.6 acres in size, being a portion of the North  $\frac{1}{4}$  of the Northeast  $\frac{1}{4}$  of the Northwest  $\frac{1}{4}$  of Section 6, Township 22 North, Range 3 East, lying and situated in the City of Vashon, County of King, State of Washington. The street address is 19215 Vashon Highway SW, Vashon, Washington 98070. The subject site consists of a single tax parcel, King County Tax ID# 0622039100. The majority of the property is developed with one and two story light industrial and office structures and pavements. The remaining portions of the property are landscaped or undeveloped, including a tree farm to the west.

### 2.2 Regional Geologic Setting

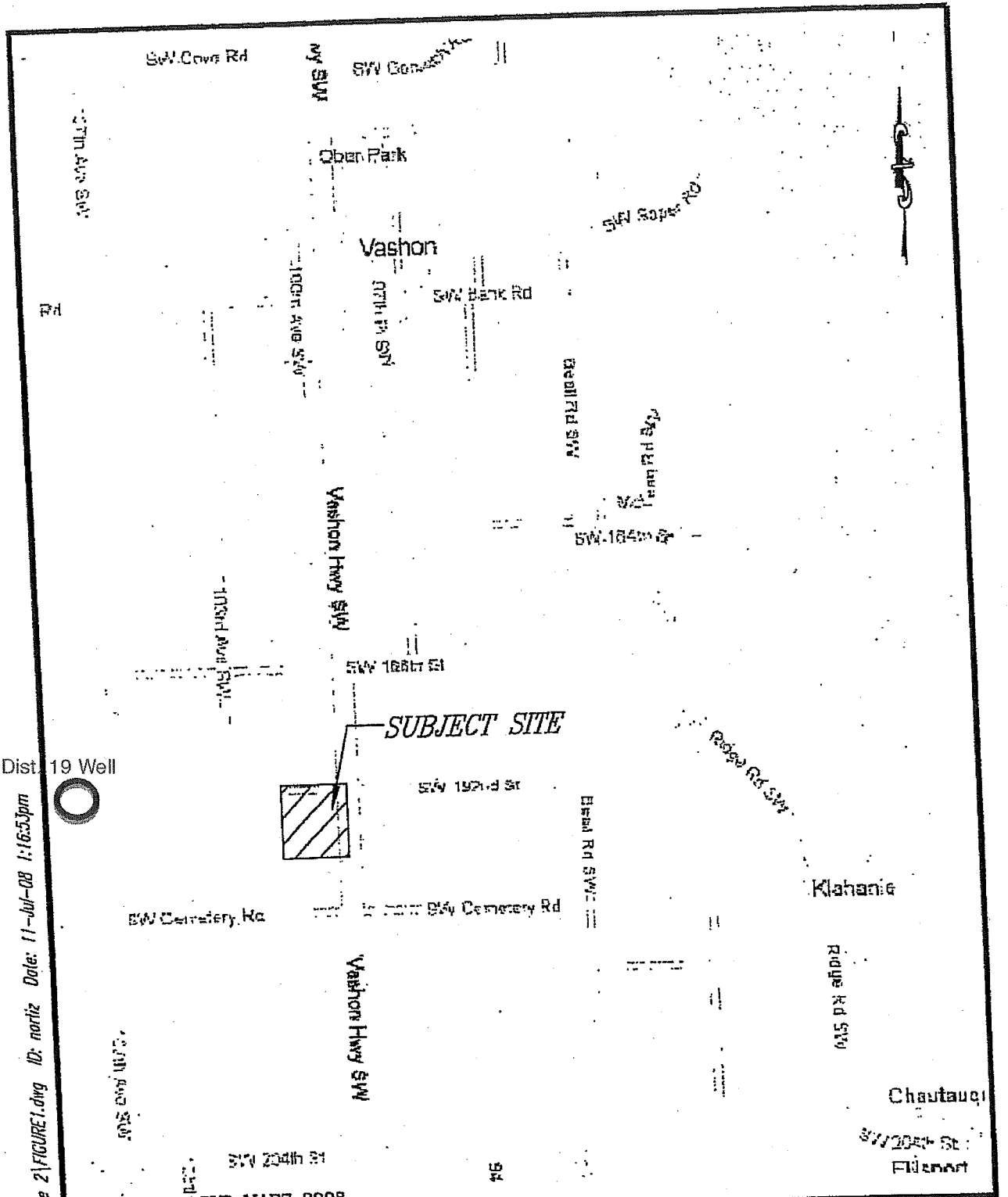
The site is located on Vashon Island (Figure 1), on the main highway running north/south through the island. The site is approximately 2 miles south of the city center. The site is relatively flat with a gentle slope toward the southeast. A ditch between the property and the roadway runs along the east portion of the site and drains to the south. The elevation is approximately 400 feet above Mean Sea Level (MSL).

The dominant soil composition is described as gravelly-sandy loam, according to the ~~Natural Resource Conservation Service (NRCS 1973)~~. The hydrologic group is Class C, indicating slow infiltration rates, moderately well drained. According to the NRCS Web Soil Survey (2008), the restrictive layer (restricting downward movement of water) associated with the local soil typically occurs within 24-40 inches of the surface. According to a King County report (2004), a layer of "Vashon till" in the area (understood to be the restrictive layer) generally contains a mixture of clay, silt sand, and gravel, exhibits low permeability, and shallow groundwater commonly perches above where it is overlain by other deposits.

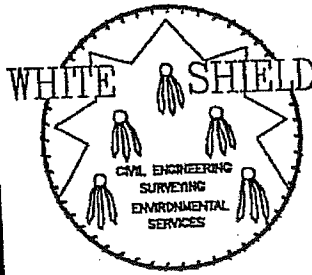
### 2.3 Regional and Site Hydrology

Based on well log reports for the general area available from the Washington State Department of Ecology (2008), topsoil occurs to a depth of 4 to 6 feet. Below this 4 to 6 feet to a depth of 40 to 80 feet the soil is described as grey till, brown and gray clay, (sometimes referred to as sandy or silty) with sand and gravel. According to well logs the regional "first occurrence" of groundwater is estimated to occur at approximately 6 to 12 feet below ground surface.





File: M:\P files\2007\2007-208 K2 Phase 2\FIGURE1.dwg ID: nortiz Date: 11-Jul-08 1:16:53pm



**WHITE SHIELD, INC.**

1520 - 140th Ave. N.E., Suite 100  
 BELLEVUE, WA 98005  
 PHONE (425) 841 - 7800  
 FAX (425) 841 - 7734

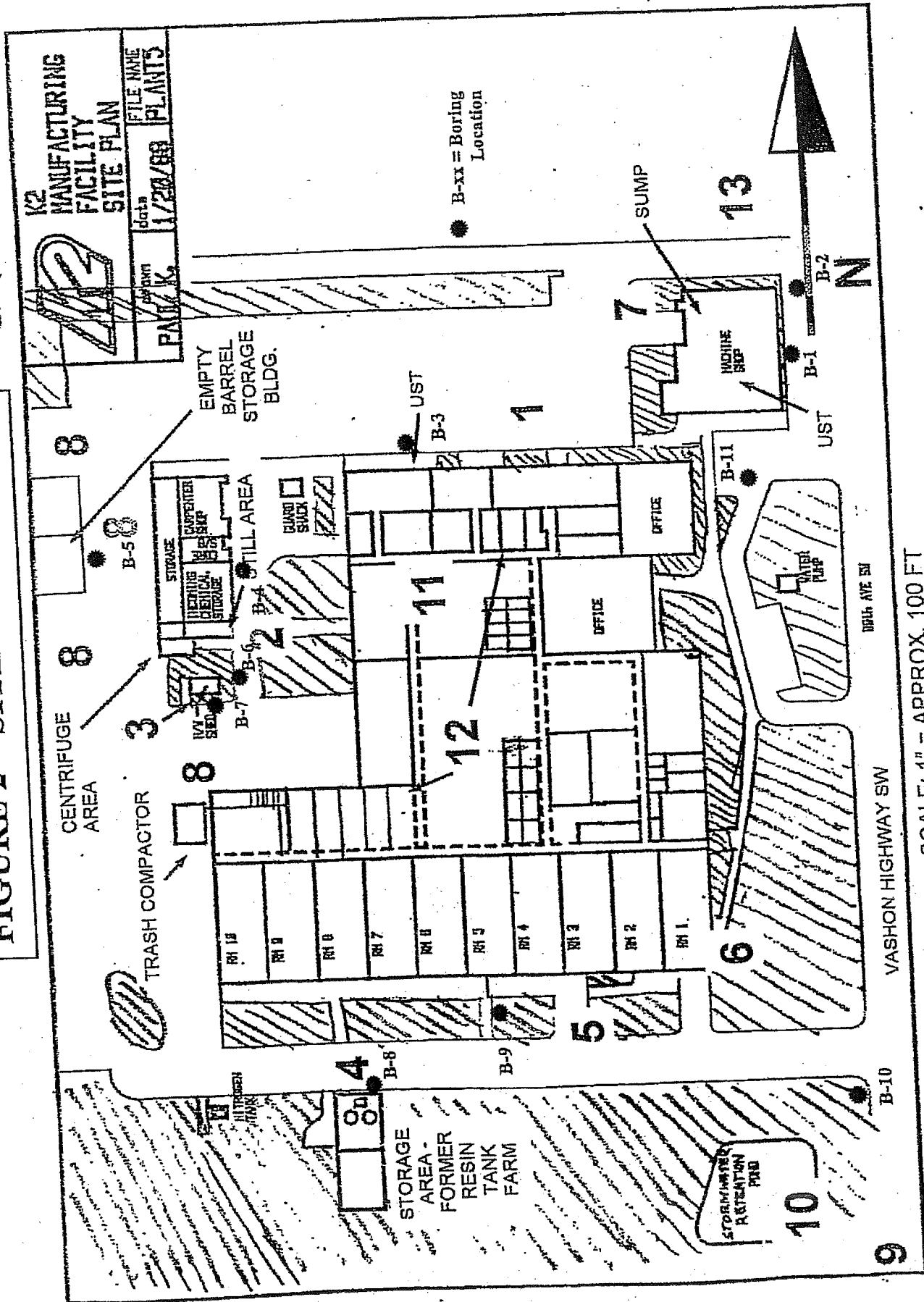
FIGURE 1

SITE LOCATION MAP

JOB No.	208-030-01
SHEET	1
OF	1

UNPAVED 11/26/02

FIGURE 2 - SITE MAP



SCALE: 1" = APPROX. 100 FT

SOURCE K2 CORPORATION

### 3.0 FIELD METHODOLOGY

#### 3.1 Utilities Locator

Prior to subsurface investigation, private utilities in the vicinity of the planned borings were located by a private utility locating service, Underground Detection Services, Bonny Lake, Washington. The WSI site investigator was present during this task, indicating general locations for planned borings and utility locating. Overhead power lines and other overhead wires were noted during this procedure.

At the request of the WSI site investigator the utilities locator was asked to approximate the location of the heating oil UST on the north side of the facility near the proposed location of boring B-3. This was done using a Magnatech Series 8000 magnetometer. The approximate location of the UST was indicated on the ground surface using white spray paint. This locating was used to site the B-3 boring as close as possible to the UST while avoiding drilling through concrete pavement. Additional metallic objects near the UST were noted by the locator and marked on the pavement.

What is this saying?  
From the Bore 3.2 numbers, if the third slot to right is Feet bgs/below ground surface, then the average is about 6 bgs, not 12-16 ft. bgs.

#### Push-Probe Investigation

The subsurface investigation was conducted by using a truck-mounted hydraulic push-probe rig, "Geo-Probe", operated by Geoprobe Northwest, Milton, Washington, at the locations shown in Figure 2. The boring locations shown in Figure 2, and the information in Table 2, were modified from the initial proposal to K2 Corporation based on the judgment of the WSI site investigator, considering access difficulties, utility location conflicts, avoidance of disturbing landscaped areas, and a reassessment of the previously referenced investigation and proposal. Borings were generally advanced to a maximum depth of 12 to 16 feet bgs, except where extremely tight soils prohibited drilling to the proposed depth using the "Geo-Probe".

The borings were sited and numbered consecutively in a generally counterclockwise direction, beginning from the front of the machine shop and ending in the front parking lot (Figure 2). Borings were placed to avoid concrete pavements, landscaping and overhead obstructions. All borings were placed on K2 Corporation property. A representative of K2 Corporation was present during the boring and sampling and assisted with site access, unlocked gates and provided information on the former operations at the facility.

#### 3.3 Sample Collection Methods

This section of the report describes the collection methodologies for soil and groundwater samples.

##### 3.3.1 Soil Sampling Methods

Soil samples were collected using a "Geo-Probe" unit. One and one-half (1.5) inch inside diameter samplers fitted with plastic liners were driven continuously from the ground surface to the bottom of each borehole. Analytical samples from each sample interval were removed from the plastic liner and placed in sterile glass jars provided by the analytical laboratory as soon as the sampler was removed from the ground. Samples were tightly packed into the sample jar to eliminate voids and sample headspace. Each sample was labeled with a unique alphanumeric sample number using the following format.

B-# - ## where:

B - # = Boring number

## = Sample depth in feet bgs (approximately)

Table 1- Boring, Purpose, Media, Contaminants of Concern and Analyses

Boring #	Purpose	Media of Concern	Contaminants of Concern	Analyses
B-1	To determine potential contamination from the machine shop UST, paint booth, and the gel coat wastewater pit	Soil & Groundwater	Petroleum Hydrocarbons, Solvents, & Metals	HCID; (NWTPH-Dx or Gx); EPA Method 8260B; MTCA 5 Metals
B-2	To determine potential contamination from the machine shop UST, paint booth, and the gel coat wastewater pit and former off-site leaking UST to the NE	Soil & Groundwater	Petroleum Hydrocarbons, Solvents, & Metals	HCID; (NWTPH-Dx or Gx); EPA Method 8260B; MTCA 5 Metals
B-3	To determine potential contamination from the heating oil UST at the location	Soil & Groundwater	Petroleum Hydrocarbons	HCID; (NWTPH-Dx )
B-4	To determine potential contamination from the still and chemical storage areas	Soil & Groundwater	Petroleum Hydrocarbons, Solvents & Metals	HCID, (NWTPH-Dx or Gx); EPA Method 8260B; MTCA 5 Metals
B-5	To determine potential contamination from the empty barrel storage areas and provide a sample site on the north	Soil & Groundwater	Petroleum Hydrocarbons, Solvents, Metals, Pesticides, Herbicides	HCID, (NWTPH-Dx or Gx); EPA Method 8260B; MTCA 5 Metals; EPA Method 8151A; EPA Method 8081A
B-6	To determine potential contamination from the still and waste storage areas	Soil & Groundwater	Petroleum Hydrocarbons, Solvents & Metals	HCID, (NWTPH-Dx or Gx); EPA Method 8260B; MTCA 5 Metals
B-7	To determine potential contamination from the hazardous waste shed and storage areas	Soil & Groundwater	Petroleum Hydrocarbons, Solvents & Metals	HCID, (NWTPH-Dx or Gx); EPA Method 8260B; MTCA 5 Metals
B-8	To determine potential contamination from the resin tank farm	Soil & Groundwater	Solvents	EPA Method 8260B
B-9	To determine potential contamination from the grinding process area	Soil & Groundwater	Petroleum Hydrocarbons, Solvents & Metals	HCID, (NWTPH-Dx or Gx); EPA Method 8260B; MTCA 5 Metals
B-10	To determine potential contamination from the stormwater holding pond and possible leaking USTs from the off-site fuels dispensing facility to the SE	Soil & Groundwater	Petroleum Hydrocarbons, Solvents & Metals	HCID, (NWTPH-Gx); EPA Method 8260B; MTCA 5 Metals
B-11	To determine potential contamination from the former degreasers, drainfield, lab and machine shop	Soil & Groundwater	Petroleum Hydrocarbons, Solvents & Metals	HCID, (NWTPH-Dx); EPA Method 8260B; MTCA 5 Metals

## 2 Groundwater Sampling Methods

Despite encountering very moist soils in places at depth, groundwater was not encountered in any of the borings and no groundwater samples were taken. At the time of the investigation there was no standing water in the roadside drainage ditch adjacent to the property. Also, there was no water in the stormwater runoff control pond, the depth of which was estimated to be in excess of ten feet.

### 3.3.3 Other Sampling Methods

No other media or materials other than soil were sampled.

### 3.4 Field Screening Methods

To assist in determining where a sample would be collected for chemical analyses, a preliminary screening of the soils was performed on the soils in the plastic sampler liner upon removal from the boring by observing for odor and soil stains and passing a handheld Photo Ionization Detector (PID) measurement probe over the length of the soil sample column.

This is an inappropriate use of this tool. The PID is a headspace tool, i.e., the procedure is to put the sample needs in a bag, squish the sample around to release volatiles to the headspace, and to measure the headspace (air in the sample). Their described "passing a PID over the length of the soil" is practically useless.

### 3.5 Decontamination Methods

Each sampler was decontaminated prior to each sample. This consisted of scraping all soil from the sampler, rinsing with tap water, washing with Alconox soap solution, and a final rinse with tap water.

### 3.6 Analytical Methods

Selected soil and groundwater samples were tested for location specific potential contaminants of concern. Table 1 identifies the borings, the purpose of each boring, the media of concern, and the potential contaminants of concern. Table 2 summarizes analytical methods employed by the laboratory.

Table 2 – Analytical Methods

Analyte	Analytical Method
Hydrocarbon ID (HCID)	NWTPH-HCID (non-quantitative)
TPH-Dx (Heavy Oil, Lube Oil, Diesel Oil)	NWTPH-Dx
TPH-Gx/BTEX (Gasoline)	NWTPH-Gx/EPA Method 8021B
Pesticides	EPA Method 5150A
Chlorinated Herbicides	EPA Method 8151A
Volatile Organics	EPA Method 8260B
MTCA Metals 5	EPA Methods 7000 Series/7471

### 3.7 Quality Control

Samples were collected according to industry protocols for the collection, documentation, and handling of samples. Descriptions of soils and sampling depths were carefully logged in the field, and the driller and engineer confirmed sample depth as each sample was collected.

This sampling method is not suitable for the volatiles (i.e., gasoline-range organics, volatile organics (tested by 8260B), BTEX). Acceptable sampling method for those analytes is field preservation with methanol. The lab extracts from methanol.

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Boring locations were documented and marked on an aerial photograph of the site as each boring was made. Prior to leaving the site each boring location was marked on the ground with a circle and boring name using orange spray paint.

Soil samples were tightly packed into jars to eliminate sample headspace. The sealed jars were then placed in "Zip-Loc" bags to protect the labels and to prevent potential contamination of the ice chests. Upon sampling, all samples were placed immediately into ice chests containing ice.

All sample labels were checked for accuracy and compared with the Chain-of-Custody documentation, to provide sample documentation Quality Control (QC). Samples were transported and submitted under standard Chain-of-Custody protocols, and were kept refrigerated until delivery to the project laboratory (Onsite Environmental Inc in Redmond, Washington). The laboratory provided standard Quality Assurance/ Quality Control (QA/QC), which included: surrogate recoveries for each sample (except for the metals analyses), method blank results, duplicate analyses, matrix or blank spiked analyses, and duplicate spiked analyses.

### **3.8 Investigation Derived Waste**

Investigation derived waste (IDW) for this project consisted of excess soil removed from the direct-push borings, rinsate from decontamination, rags, gloves and other items used on site in the investigation. These wastes were placed into a 25-gallon drum. The drum was left on site in a secured location away from public access until the analytical results were received from the laboratory and appropriate disposal options were determined.

## **4.0 RESULTS AND CONCLUSIONS**

The following sections of this report present the results and conclusions from the subsurface investigation. Field activities were conducted at the subject site on June 12, 2008.

### **4.1 Site Geologic and Hydrogeologic Conditions**

The subject site is relatively flat with an elevation of approximately 400 feet above Mean Sea Level (MSL). The surrounding topography slopes gently downward to the southeast. Soils tended to be denser at depth going from east to west. The soils encountered varied throughout the site, consisting of combinations of sand, clay and silt, with some small rocks to a diameter of approximately 1-inch. Looser brown silty/clay/sandy soils predominated nearer the surface, transitioning to denser grayish clay at depth. At the base of each boring, soils were extremely dense, well-compacted, fine-grained grey till. Soils tended to be damp with depth, but no free groundwater was encountered. One boring was moved slightly after surface penetration upon encountering complete resistance within the first foot.

Eleven (11) borings were advanced to depths ranging from 9 (B-7) to 16 (B-10) feet below ground surface (bgs). Termination at depth was based upon encountering extreme resistance in the very dense till. Boring B-7 was terminated at 9 feet bgs, due to the inability of the drill rig to go further. Comments from the driller during the operation (and noted in the boring logs) included "very tilly" and "hardest soils I've ever seen on Vashon". At Boring B-10 the driller was directed by the site investigator to go as deep as possible, beyond resistance levels encountered at other borings. This boring was advanced to 16 feet bgs, only with extreme difficulty and expenditure of time.

Table 3 - Soil Analytical Results

Constituent	Analysis	Units	MTCA Method A Action Level	Boring Location and Sample Number											
				B-1-3	B-2-6	B-3-1	B-3-10	B-4-4	B-5-4	B-6-4	B-7-4	B-8-6	B-9-2	B-10-14	B-11-6
Petroleum Hydrocarbons	HCID	mg/kg		ND	ND	Diesel Fuel #2; Lube Oil	ND	Lube Oil	Lube Oil	ND	ND	NA	ND	ND	ND
	TPH-Gasoline	mg/kg	100	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	TPH-Diesel	mg/kg	2,000	NA	NA	2,200	NA	NA	NA	NA	NA	NA	NA	NA	NA
	TPH-Heavy Oils Range	mg/kg	2,000	NA	NA	740	NA	ND*	ND	NA	NA	NA	NA	NA	NA
Metals	Lead	mg/kg	250	ND	ND	NA	NA	ND	ND	ND	ND	NA	28	ND	ND
	Cadmium	mg/kg	2	ND	34	NA	NA	35	30	29	27	NA	16	ND	ND
	Chromium	mg/kg	2,000	28	ND	NA	NA	ND	ND	ND	ND	NA	ND	ND	ND
	Arsenic	mg/kg	20	ND	ND	NA	NA	ND	ND	ND	ND	NA	NA	NA	NA
	Mercury	mg/kg	2	ND	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA
Pesticides	Organochlorines	ug/kg		NA	NA	NA	NA	NA	ND	ND	ND	ND	ND	0.009	ND
Herbicides	Chlorinated Acid	mg/kg		NA	NA	NA	NA	0.0035	ND	0.0016	ND	ND	ND	0.0057**	ND
Volatile Organics	Trichloroethene	mg/kg	0.03	ND	ND	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND
	Methylene Chloride	mg/kg		ND	ND	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND

Not sure why this is emphasized. The concentration is below Action Levels.

Not sure why this is emphasized. The concentration is below Action Levels. HOWEVER, with no information on why this sample depth was selected, the results are practically useless.

Would higher levels be found shallower? The potential source at this location was noted to be the storm water detention basin and a UST. The boring looks to be > 100 ft from either of these things. The sample at 14' may not detect anything from these sources. Without a discussion of decision units and sampling goals, the findings are meaningless.

NA = Not analyzed (TPH sample was not analyzed if HCID analysis was ND) these things. The sample at 14' may not detect anything from these sources. Without a discussion of decision units and sampling goals, the findings are meaningless.

ND = Not detected at the laboratory detection limit

Individual pesticides, herbicides and volatile organics are listed only if a reported detected concentration is present.

\* = Values for the Lube Oil were below the laboratory detection limit of 68 mg/kg (and below the MTCA Action Level) when analyzed by the NWTTPH method

\*\* = Laboratory analysis notes indicate this analyte is a common laboratory solvent and may have been introduced during sample preparation

These highlighted results are a potential concern. Using the "hydrocarbon ID" method, the lab reported Lube Oil. The lab's quantitation limit was 140 mg/kg. The lab analyzed separately for TPH-oil and found no concentration above the lab's quantitation limit, which was 65 mg/kg. If the first test indicated oil at concentrations greater than 140 mg/kg, how did the different test have no oil above 68 mg/kg? It's possible that the silica gel cleanup (used to remove organics that could influence the results) used on the TPH analysis affected the results. Would have to have a chemist look at the laboratory chromatographs for the HCID test to assess how they determined it was lube oil. Basically, these results should have been further investigated and explained. Unfortunately, with the HCIS test, they just report "presence" rather than concentration.

Soil moisture in the collected samples varied from 15% to 26 %; the more moist samples (above 20%) tending to be closer to the surface and the less moist (below 20%) tending to be deeper.

Groundwater was not encountered in any boring. The hydraulic conductivity of the soils is generally fairly low, based on the density of soil borings observed in the field.

## 4.2 Soil and Groundwater Sampling

Based on visual observations and consideration of depth, one or more samples from each boring were retained for chemical analyses. The samples were obtained from depths that ranged from one (1) to fourteen (14) feet bgs.

How were the sample selected? There has to be some justification for selecting a particular depth. Otherwise, it's a shot in the dark.

### 4.2.1 Soil Sampling Results

Twelve (12) samples were collected from eleven (11) borings and submitted for analyses. The results of the sample analyses are summarized in Table 3. Appendix B contains the analytical results as received from the laboratory.

Analytical results were compared to the MTCA Method A Soil Cleanup Levels for Unrestricted Land Uses (Chapter 173-340-740 WAC). Where MTCA Method A levels were not established, the concentrations were compared to MTCA Method B Soil Cleanup Levels for Unrestricted Land Uses.

#### 4.2.1.1 Petroleum Hydrocarbons

The detection of an analytes above the DOE Action Level likely should have been reported as a "release" to the regulatory agency. This would kick in regulatory oversight, if it wasn't already happening. The extent of contamination is unknown, and would require additional investigation. Could this tank have leaked to groundwater?

HCID analysis revealed the presence of heavy range hydrocarbons in three samples: B-3-1 (at the surface near the heating oil UST), B-4-4 (barrel storage area) and B-5-4 (still and chemical storage areas). Hydrocarbons were not detected in all other HCID samples. Although laboratory analyses indicated the presence of heavy range petroleum in the three named samples, only B-3-1 was found to have a value above the quantitative laboratory detection limit. Sample B-3-1 was found to contain heavy range oils at 740 mg/kg and diesel range petroleum at a concentration of 2,200 mg/kg. This last value is greater than the Department of Ecology MTCA Method A Action Level of 2,000 mg/kg for diesel range petroleum hydrocarbons.

How did water get into the underground storage tank? If there is a hole in the tank that allows water in, could petroleum have leached out? I doubt their one sample satisfies WA DOE requirements for a

Dip sticking of the UST at location B-3 indicated water in the tank to a depth of approximately 12" with no sheen and only a slight petroleum odor.

#### 4.2.1.2 Volatile Organic Compounds (Solvents)

Volatile results not suitable for decision making because of improper sampling technique.

were found in trace amounts in four of the ten samples analyzed: trichloroethene in samples B-4-4, B-6-4, and B-10-14; and methylene chloride in B-9-2. This last value was flagged by the laboratory as possibly being influenced by the use of methylene chloride, a common laboratory solvent, during the analysis. The others were all below MTCA levels.



#### 4.2.1.3 Metals

Eight (8) samples were analyzed for metals. Chromium was found in all eight of the samples, but all values (27-47 mg/kg) were well below the MTCA level of 2,000 mg/kg. Mercury and cadmium were not detected in any of the samples. Sample B-9-2 was found to contain arsenic and lead at 16 and 28 mg/kg respectively, below the MTCA levels of 20 and 250 mg/kg. Since this sample was taken in the upper level of a grassy area, a possible source of the metals might be accumulation of fallout from the former Asarco Smelter plume.

#### 4.2.1.4 Herbicides

Herbicides were analyzed only for sample B-5-4 and were not found above the laboratory detection limit.

Why weren't herbicides and pesticides sampled in the leach field from the nursery?

#### 4.2.1.5 Pesticides

Pesticides were analyzed only for sample B-5-4 and were not found above the laboratory detection limit.

#### 4.2.2 Quality Control Sample Results

Standard protocol is to obtain field QC samples to check sampling quality. I don't see any mention of field QC samples (duplicate/triplicate samples or field blanks).

On-Site Environmental Laboratory provided standard QA/QC, which included: surrogate recoveries for each sample (except for the metals analyses), method blank results, matrix or blank spiked analyses, and duplicate spiked analyses.

The results of the surrogate recoveries on the samples taken, matrix spiked samples, and duplicate spiked samples were within standard accepted laboratory levels.

The results of the QC samples did not reveal any data to invalidate the sample results from the samples taken at the subject site.

#### 4.3 Conclusions

Only one sample, B-3-1, was found to have a value above the Department of Ecology MTCA Method A Action Level. Sample B-3-1 was found to contain diesel range petroleum at a concentration of 2,200 mg/kg. This value is greater than the MTCA Method A Action Level of 2,000 mg/kg for diesel range petroleum hydrocarbons. ~~Because contamination has been found above the MTCA cleanup level, the MTCA regulations (WAC 173-340-300) require that the Washington State Department of Ecology (Ecology) be notified within 90 days (see Section 5.0 below).~~

Was this done?

A second sample taken at this location approximately 10 feet below the ground surface (B-3-10) indicated no detectable petroleum. Review of the boring log for this location indicates the presence of a 2-4 inch layer of visually identifiable petroleum staining at a depth of approximately 4 to 6 inches beneath the lightly grassed ground surface. No other visual or odor evidence of petroleum was observed in the sample column beyond the surface. These findings indicate that the contamination was most probably due to overtopping or spillage during filling(s) of the UST, rather than a leak. The possibility of additional contamination in the soil around and beneath the tank cannot be overlooked, however, since only one boring was placed at the tank location. Further, the lateral extent of the contamination is not determinable from the limited data at this time.

These statements are appropriate. And should prompt the additional investigation required for proper tank closure.

Because the UST was used for storing heating oil for consumptive use on the premises and its capacity is less than 1,100 gallons the tank is exempt from Ecology's specific UST requirements (WAC 173-360-110 (2) (h)). However, the release must still be reported under the more general MTCA provisions in WAC 173-340.

## 5.0 RECOMMENDATIONS

As mentioned above, the discovery of a sample constituent above the MTCA Method A Action Level requires an affirmative action on the part of K2 Corporation as an owner/operator following Ecology regulations (WAC 173-340-300). WSI recommends the following actions be taken by K2 Corporation:

Was this notification made?

1. A notification should be submitted to Ecology within 90 days of the date of discovery, which is the date of the analytical laboratory report (June 26, 2008), per the requirements of WAC 173-340-300. The notification is for reporting purposes only and does not commit K2 Corporation to undertake any remediation activities at this time. Should any remediation activities be undertaken, then these are to be reported to the Ecology in a second notification (WAC 173-340-400). Ecology can also be notified of the discovery and any cleanup action in a single report, if both actions occur within the initial 90-day period. Submittal of this report can fulfill the notification requirements.

2. The UST and surrounding soils should be excavated and disposed of, according to prevailing regulations and procedures, as soon as practical. As noted above, if this is undertaken and completed within 90 days of discovery, a single reporting to Ecology can be accomplished. There are two subitems to this recommendation.

Agree completely with this recommendation. Was it done?

a. It is more practical to initiate excavation of the soil and tank after removal of all contents and determine the extent of soil contamination as the excavation proceeds, rather than instituting another round of borings and soil sampling prior to excavation. The latter approach has the inherent limitation of a "hit or miss" outcome and would be extremely unlikely to discover any contamination directly beneath the tank (which could be possible if the suggested overtopping or spillage followed a pathway downward along the surface of the tank and/or through the tank backfill material). ~~Therefore we recommend the decommissioning and removal of the tank through excavation.~~

Agree - would be done before removing the tank.

b. Any construction drawings, specifications, work orders, purchase orders, and other documentation regarding the type, dimensions, and exact location of the tank and associated piping should be obtained as soon as possible and certainly before any excavation proceeds. Lacking any significant records, a more detailed underground survey would need to be performed to locate the tank and its piping. This survey would consist of using a ground penetrating radar (GPR) to locate the tank and associated piping.

## 6.0 WARRANTY AND LIMITATIONS

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pursuant to our agreement with our client. Unauthorized use of this report is strictly prohibited, and WSI, Inc. assumes no liability for such use.

This report has been prepared to aid the K2 Corporation with regard to the potential for the presence of hazardous materials and petroleum hydrocarbons at the time of this specific environmental site assessment. The degree and quality of the information contained in this report is the result of a limited scope of work and limited fee, as directed by the K2 Corporation. WSI, Inc. assumes no responsibility for conditions it was not authorized to investigate or conditions not generally recognized as environmentally acceptable when services were performed.

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The conclusions in this report rely on others' credibility and, therefore, any alteration in documentation or verbal information obtained may result in the redirection of the conclusions presented in this report. This report is not a comprehensive site characterization and should not be construed as such. The interpretation and conclusions are also based on one day of fieldwork. No investigation is thorough enough to exclude the presence of additional hazardous substances at a given site. If hazardous substances or hazardous conditions have not been identified during this assessment, such a finding should not be construed as a guarantee of the absence of such substances or conditions, but rather as the result of services performed within the limitations of scope, schedule, and budget of the work actually performed. None of the work performed under this scope of work or recommendations resulting from this work shall constitute or be represented as a legal opinion of kind or nature on the part of WSI, Inc., but shall be a representation of findings from the particular information obtained.



Don Hemovich, PE, a Washington State Registered Professional Civil Engineer with over 30 years of experience in the environmental field performed the site investigation and prepared the report. Dave Polivka, LHG, Senior Hydrogeologist, with 22 years of experience in the environmental services industry, performed senior review of this project.

We appreciate the opportunity to submit this Phase II Environmental Site Assessment. If you have any questions or need additional information, please contact us at (425) 641-7800.

Sincerely,

WHITE SHIELD, INC.

Don Hemovich, PE  
Senior Engineer